

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
14 July 2005 (14.07.2005)

PCT

(10) International Publication Number  
**WO 2005/062721 A3**

(51) International Patent Classification<sup>7</sup>: **C08G 63/00**,  
63/02

(21) International Application Number:  
PCT/IN2004/000358

(22) International Filing Date:  
18 November 2004 (18.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
1202/MUM/2003  
21 November 2003 (21.11.2003) IN

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations
- of inventorship (Rule 4.17(iv)) for US only

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:  
5 January 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(71) Applicant (for all designated States except US): **RELIANCE INDUSTRIES LIMITED** [IN/IN]; Reliance Centre, 19, Walchand Hirachand Marg, Ballard Estate, Mumbai 400 038 (IN).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **NADKARNI, Vikas, Madhusudan** [IN/IN]; A-18, Garden Estate, Off. D.P. Road, Aundh, Pune 411 007 (IN). **MUKHOPADHYAY, Anjan, Kumar** [IN/IN]; A-48, Reliance Housing Complex, Mohapada, Rasayani, Raiga 410 222, Maharashtra (IN). **JAIN, Ashwin, Kumar** [IN/IN]; C-6/2/1/1, Sector-18, Cidco Colony, New Panvel, Navi Mumbai 410 206, Maharashtra (IN). **JHAVER, Manoj** [IN/IN]; Ashok Chandak, B-607, Dheeraj Pooja, Chincholi Bunder Road, Malad (West), Mumbai 400 064, Maharashtra (IN).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

(54) Title: **MODIFIED POLYETHYLENE, TEREPHTHALATE FOR LOW TEMPERATURE DYEABILITY, CONTROLLED SHRINKAGE CHARACTERISTICS AND IMPROVED TENSILE PROPERTIES**

(57) Abstract: The modified polyethylene terephthalate is a copolymer formed from terephthalic acid or its ester, ethylene glycol, a flexible long chain aliphatic dicarboxylic acid or its ester, and a hydroxy terminated polyether polyol or acyclic diol or aliphatic diol. The modified polyethylene terephthalate filament, staple fiber, yarn and resultant fabric is dyeable with a disperse dye without dye carrier at low temperature of about 100°C. The dyed filament, staple fiber, yarn and resultant fabric has a dye index greater than 100, and preferably at least about 120 to 600 with controlled shrinkage of 6 to 10%.

WO 2005/062721 A3